

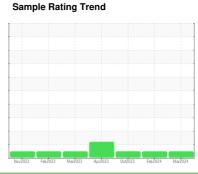
OIL ANALYSIS REPORT

MONTGOMERY Area **KENWORTH 426116**

Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- LTR)





DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

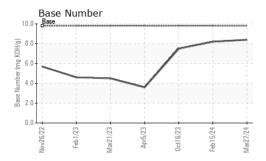
Fluid Condition

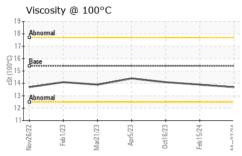
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Sample Date | SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
|--|------------------|---|-------------|------------|-------------|-------------|-------------|
| Machine Age hrs Client Info 16160 16110 15993 Oil Age hrs Client Info 167 117 240 Oil Changed Client Info Not Changd Not Changd NoRMAL NORMAL Sample Status Wilder Wilder Wilder Wilder Wilder Wilder Wilder Viller Wilder Viller Viller Viller Neg Ne | Sample Number | | Client Info | | GFL0115614 | GFL0088635 | GFL0092420 |
| Oil Age hrs Client Info 167 117 240 Oil Changed Sample Status Client Info Not Changd Not Changd Not Changd NoRMAL Not Changd NoRMAL NORMAL <t< th=""><th>Sample Date</th><th></th><th>Client Info</th><th></th><th>27 Mar 2024</th><th>15 Feb 2024</th><th>16 Oct 2023</th></t<> | Sample Date | | Client Info | | 27 Mar 2024 | 15 Feb 2024 | 16 Oct 2023 |
| Oil Changed Sample Status Client Info Not Changd NORMAL Not Changed NORMAL Changed NORMAL Changed NORMAL Changed NORMAL Changed NORMAL Changed NORMAL | Machine Age | hrs | Client Info | | 16160 | 16110 | 15993 |
| Sample Status | Oil Age | hrs | Client Info | | 167 | 117 | 240 |
| CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 | Oil Changed | | Client Info | | Not Changd | Not Changd | Changed |
| Fuel | Sample Status | | | | NORMAL | NORMAL | NORMAL |
| Water Glycol WC Method >0.2 NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 10 10 24 Chromium ppm ASTM D5185m >20 <1 | CONTAMINAT | ION | method | limit/base | current | history1 | history2 |
| WEAR METALS | Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 10 10 24 Chromium ppm ASTM D5185m >20 <1 | Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Iron | Glycol | | WC Method | | NEG | NEG | NEG |
| Chromium ppm ASTM D5185m >20 <1 | WEAR METAL | S | method | limit/base | current | history1 | history2 |
| Nickel ppm ASTM D5185m >4 <1 0 <1 Titanium ppm ASTM D5185m 0 0 0 <1 | Iron | ppm | ASTM D5185m | >100 | 10 | 10 | 24 |
| Titanium ppm ASTM D5185m 0 0 <1 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 3 2 3 Lead ppm ASTM D5185m >30 0 <1 | Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | <1 |
| Titanium ppm ASTM D5185m 0 0 <1 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 3 2 3 Lead ppm ASTM D5185m >40 1 2 6 Copper ppm ASTM D5185m >330 0 <1 | Nickel | | | >4 | <1 | 0 | <1 |
| Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 3 2 3 Lead ppm ASTM D5185m >40 1 2 6 Copper ppm ASTM D5185m >330 0 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 | Titanium | • | ASTM D5185m | | 0 | 0 | <1 |
| Aluminum | Silver | | ASTM D5185m | >3 | 0 | 0 | 0 |
| Lead ppm ASTM D5185m >40 1 2 6 Copper ppm ASTM D5185m >330 0 <1 <1 Tin ppm ASTM D5185m >15 <1 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 6 3 7 Boron ppm ASTM D5185m 0 6 3 7 Barium ppm ASTM D5185m 0 6 3 7 Barium ppm ASTM D5185m 0 6 3 7 Barium ppm ASTM D5185m 0 6 1 59 72 Manganese ppm ASTM D5185m 0 <1 0 0 Magnesium ppm ASTM D5185m 1010 919 823 931 Calcium ppm ASTM D5185m 1070 1059 <th< td=""><th>Aluminum</th><td>• • • • • • • • • • • • • • • • • • • •</td><td>ASTM D5185m</td><td>>20</td><th>3</th><td>2</td><td>3</td></th<> | Aluminum | • | ASTM D5185m | >20 | 3 | 2 | 3 |
| Copper ppm ASTM D5185m >330 0 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 | Lead | | | >40 | 1 | 2 | 6 |
| Tin ppm ASTM D5185m >15 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 | Copper | • | ASTM D5185m | >330 | 0 | <1 | <1 |
| Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 6 3 7 Barium ppm ASTM D5185m 0 0 3 0 Molybdenum ppm ASTM D5185m 0 61 59 72 Manganese ppm ASTM D5185m 0 <1 0 0 Magnesium ppm ASTM D5185m 1010 919 823 931 Calcium ppm ASTM D5185m 1070 1059 982 1188 Phosphorus ppm ASTM D5185m 1270 1236 1074 1228 Sulfur ppm ASTM D5185m 2060 3526 3068 3210 CONTAMINANTS method limit/base current history1 <th></th> <td></td> <td></td> <td></td> <th><1</th> <td><1</td> <td><1</td> | | | | | <1 | <1 | <1 |
| Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 6 3 7 Barium ppm ASTM D5185m 0 0 3 0 Molybdenum ppm ASTM D5185m 60 61 59 72 Manganese ppm ASTM D5185m 0 <1 | Vanadium | • | ASTM D5185m | | 0 | 0 | 0 |
| Boron | Cadmium | | | | 0 | | 0 |
| Barium ppm ASTM D5185m 0 0 3 0 Molybdenum ppm ASTM D5185m 60 61 59 72 Manganese ppm ASTM D5185m 0 <1 0 0 Magnesium ppm ASTM D5185m 1010 919 823 931 Calcium ppm ASTM D5185m 1070 1059 982 1188 Phosphorus ppm ASTM D5185m 1150 1017 946 971 Zinc ppm ASTM D5185m 1270 1236 1074 1228 Sulfur ppm ASTM D5185m 2060 3526 3068 3210 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 7 Sodium ppm ASTM D5185m >20 2 3 6 INFRA-RED method limit/base | ADDITIVES | | method | limit/base | current | history1 | history2 |
| Barium ppm ASTM D5185m 0 0 3 0 Molybdenum ppm ASTM D5185m 60 61 59 72 Manganese ppm ASTM D5185m 0 <1 0 0 Magnesium ppm ASTM D5185m 1010 919 823 931 Calcium ppm ASTM D5185m 1070 1059 982 1188 Phosphorus ppm ASTM D5185m 1070 1017 946 971 Zinc ppm ASTM D5185m 1270 1236 1074 1228 Sulfur ppm ASTM D5185m 2060 3526 3068 3210 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 7 Sodium ppm ASTM D5185m >20 2 3 6 INFRA-RED method limit/base | Boron | ppm | ASTM D5185m | 0 | 6 | 3 | 7 |
| Manganese ppm ASTM D5185m 0 <1 0 0 Magnesium ppm ASTM D5185m 1010 919 823 931 Calcium ppm ASTM D5185m 1070 1059 982 1188 Phosphorus ppm ASTM D5185m 1150 1017 946 971 Zinc ppm ASTM D5185m 1270 1236 1074 1228 Sulfur ppm ASTM D5185m 2060 3526 3068 3210 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 7 Sodium ppm ASTM D5185m >20 2 3 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.4 Nitration Abs/.1mm *ASTM D741 | Barium | ppm | ASTM D5185m | 0 | 0 | 3 | 0 |
| Magnesium ppm ASTM D5185m 1010 919 823 931 Calcium ppm ASTM D5185m 1070 1059 982 1188 Phosphorus ppm ASTM D5185m 1150 1017 946 971 Zinc ppm ASTM D5185m 1270 1236 1074 1228 Sulfur ppm ASTM D5185m 2060 3526 3068 3210 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 7 Sodium ppm ASTM D5185m >20 2 3 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.4 Nitration Abs/:nm *ASTM D7415 >30 18.2 18.5 20.1 FLUID DEGRADATION me | Molybdenum | ppm | ASTM D5185m | 60 | 61 | 59 | 72 |
| Magnesium ppm ASTM D5185m 1010 919 823 931 Calcium ppm ASTM D5185m 1070 1059 982 1188 Phosphorus ppm ASTM D5185m 1150 1017 946 971 Zinc ppm ASTM D5185m 1270 1236 1074 1228 Sulfur ppm ASTM D5185m 2060 3526 3068 3210 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 7 Sodium ppm ASTM D5185m >20 2 3 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.4 Nitration Abs/:nm *ASTM D7415 >30 18.2 18.5 20.1 FLUID DEGRADATION me | • | • | ASTM D5185m | 0 | <1 | 0 | 0 |
| Calcium ppm ASTM D5185m 1070 1059 982 1188 Phosphorus ppm ASTM D5185m 1150 1017 946 971 Zinc ppm ASTM D5185m 1270 1236 1074 1228 Sulfur ppm ASTM D5185m 2060 3526 3068 3210 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 7 Sodium ppm ASTM D5185m >20 2 3 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.4 Nitration Abs/cm *ASTM D7415 >30 18.2 18.5 20.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm | - | | ASTM D5185m | 1010 | 919 | 823 | 931 |
| Zinc ppm ASTM D5185m 1270 1236 1074 1228 Sulfur ppm ASTM D5185m 2060 3526 3068 3210 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 7 Sodium ppm ASTM D5185m >20 2 3 6 Potassium ppm ASTM D5185m >20 2 3 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.4 Nitration Abs/cm *ASTM D7624 >20 7.3 7.0 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 18.5 20.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM | - | | ASTM D5185m | 1070 | 1059 | 982 | 1188 |
| Zinc ppm ASTM D5185m 1270 1236 1074 1228 Sulfur ppm ASTM D5185m 2060 3526 3068 3210 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 7 Sodium ppm ASTM D5185m >20 2 3 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.4 Nitration Abs/cm *ASTM D7624 >20 7.3 7.0 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 18.5 20.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.7 14.6 16.5 | Phosphorus | ppm | ASTM D5185m | 1150 | 1017 | 946 | 971 |
| Sulfur ppm ASTM D5185m 2060 3526 3068 3210 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 7 Sodium ppm ASTM D5185m >20 2 3 6 Potassium ppm ASTM D5185m >20 2 3 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.4 Nitration Abs/cm *ASTM D7624 >20 7.3 7.0 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 18.5 20.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.7 14.6 16.5 | | | ASTM D5185m | 1270 | 1236 | 1074 | 1228 |
| Silicon ppm ASTM D5185m >25 4 4 7 Sodium ppm ASTM D5185m <1 0 0 Potassium ppm ASTM D5185m >20 2 3 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.4 Nitration Abs/cm *ASTM D7624 >20 7.3 7.0 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 18.5 20.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.7 14.6 16.5 | Sulfur | | ASTM D5185m | 2060 | 3526 | 3068 | 3210 |
| Sodium ppm ASTM D5185m <1 0 0 Potassium ppm ASTM D5185m >20 2 3 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.4 Nitration Abs/cm *ASTM D7624 >20 7.3 7.0 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 18.5 20.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.7 14.6 16.5 | CONTAMINAN | TS | method | limit/base | current | history1 | history2 |
| Potassium ppm ASTM D5185m >20 2 3 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.4 Nitration Abs/cm *ASTM D7624 >20 7.3 7.0 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 18.5 20.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.7 14.6 16.5 | Silicon | ppm | ASTM D5185m | >25 | 4 | 4 | 7 |
| Potassium ppm ASTM D5185m >20 2 3 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.4 Nitration Abs/cm *ASTM D7624 >20 7.3 7.0 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 18.5 20.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.7 14.6 16.5 | Sodium | • | ASTM D5185m | | <1 | 0 | 0 |
| Soot % % *ASTM D7844 >3 0.2 0.2 0.4 Nitration Abs/cm *ASTM D7624 >20 7.3 7.0 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 18.5 20.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.7 14.6 16.5 | Potassium | ppm | ASTM D5185m | >20 | 2 | 3 | 6 |
| Nitration Abs/cm *ASTM D7624 >20 7.3 7.0 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 18.5 20.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.7 14.6 16.5 | INFRA-RED | | method | limit/base | current | history1 | history2 |
| Sulfation Abs/.1mm *ASTM D7415 >30 18.2 18.5 20.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.7 14.6 16.5 | Soot % | % | *ASTM D7844 | >3 | 0.2 | 0.2 | 0.4 |
| Sulfation Abs/.1mm *ASTM D7415 >30 18.2 18.5 20.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.7 14.6 16.5 | Nitration | Abs/cm | *ASTM D7624 | >20 | 7.3 | 7.0 | 9.1 |
| Oxidation Abs/.1mm *ASTM D7414 >25 14.7 14.6 16.5 | Sulfation | Abs/.1mm | *ASTM D7415 | >30 | | | |
| | FLUID DEGRAD | DATION | method | limit/base | current | history1 | history2 |
| | Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 14.7 | 14.6 | 16.5 |
| | Base Number (BN) | mg KOH/g | | | 8.4 | 8.2 | 7.5 |



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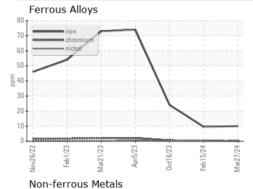


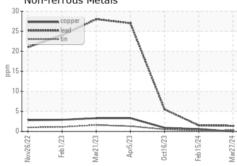


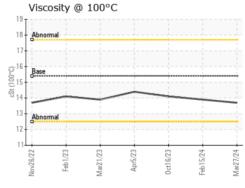
| VISUAL | | method | limit/base | current | history1 | history2 |
|-------------------------|--------|---------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG | NEG |

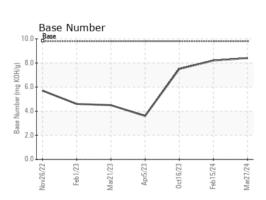
| FLUID PROPI | ERTIES | method | | | | history2 |
|--------------|--------|-----------|------|------|------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.7 | 13.9 | 14.1 |

GRAPHS













Certificate L2367

Laboratory Sample No.

Lab Number : 06133111 Unique Number: 10952576 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0115614 Received : 29 Mar 2024 **Tested** : 31 Mar 2024

Diagnosed

: 31 Mar 2024 - Wes Davis

GFL Environmental - 955 - Montgomery

1121 Wilbanks St Montgomery, AL US 36108

Contact: LISA REEVES

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

T:

F: